

VIA FACSIMILE TRANSMISSION 571-273-8300

Docket No. 135271 (553-1040)
PATENT

IN THE CLAIMS

1. (Currently Amended) A sub-aperture transceiver system to be housed in an ultrasound probe, the system comprising:

a probe housing;

a signal processor located in the probe housing;

receive signal connections coupling the signal processor to a receive sub-aperture comprising acoustic transceiver elements;

transmit signal connections coupled to a transmit sub-aperture comprising at least one acoustic transceiver element joined to multiplexing circuitry to multiplex the acoustic transceiver element between the transmit and receive sub-apertures, the signal processor performing beamforming on the receive sub-aperture to produce a receive sub-aperture signal; and

a receive sub-aperture output driven by the signal processor for carrying the receive sub-aperture signal from the probe housing.

2. (Previously Presented) The system of claim 1, where the receive sub-aperture is a triangular sub-aperture.

3. (Previously Presented) The system of claim 1, where the transmit sub-aperture is square.

4. (Previously Presented) The system of claim 1, where the receive sub-aperture comprises at least two uneven rows of acoustic transceiver elements.

5. (Previously Presented) The system of claim 1, where the receive signal connections couple the signal processor to a plurality of receive sub-apertures.

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6. (Previously Presented) The system of claim 1, where the transmit signal connections couple the signal processor to a plurality of transmit sub-apertures.

7. (Previously Presented) The system of claim 6, where the receive sub-apertures are triangular receive sub-apertures.

8. (Previously Presented) The system of claim 1, further comprising a plurality of signal processors coupled to a corresponding plurality of receive sub-apertures, each of the signal processors performing beamforming for the corresponding receive sub-aperture.

9. (Previously Presented) The system of claim 8, where the receive signal connections further couple each signal processor to the corresponding receive sub-apertures, the receive sub-apertures collectively forming a receive aperture.

10. (Currently Amended) A sub-aperture transceiver system comprising:

a first processing board having a data input to receive first setup data;

a second processing ~~broad-board~~ joined serially in a chained arrangement with the first processing board, the second processing board having a data input to receive second setup data; and

receive signal connections for a plurality of receive sub-apertures distributed between the first and second processing boards, the first and second processing boards producing first and second receive data, respectively, based upon first and second setup data, the first and second setup data being propagated serially between the first processing board and the second processing board;

where the receive signal connections couple each receive sub-aperture to at least one of the first and second processing boards without partitioning any receive sub-aperture between the first and second processing boards.